(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 31 December 2003 (31.12.2003)

PCT

(10) International Publication Number WO 2004/000383 A3

- (51) International Patent Classification⁷: 27/34
- A61L 31/10,
- (21) International Application Number:

PCT/US2003/015544

(22) International Filing Date:

14 May 2003 (14.05.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

10/176,504

21 June 2002 (21.06.2002) US

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- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- (88) Date of publication of the international search report: 27 May 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

2004/000383 A3 IIII

PCT/US 03/15544

A CLASSIF IPC 7	FICATION OF SUBJECT MATTER A61L31/10 A61L27/34								
According to International Patent Classification (IPC) or to both national classification and IPC									
B. FIELDS	SEARCHED								
IPC 7	cumentation searched (classification system followed by classification A61L								
Documentati	ion searched other than minimum documentation to the extent that s	such documents are included in the fields se	arched						
		en and whose practical accord to the	1						
	ata base consulted during the international search (name of data base								
EPO-Int	ternal, CHEM ABS Data, PAJ, WPI Data	a, DIUSIS, EMBASE							
C. DOCUME	ENTS CONSIDERED TO BE RELEVANT								
Calegory °	Citation of document, with indication, where appropriate, of the rel	levant passages	Retevant to claim No.						
χ .	"ROLLING THERAPEUTIC AGENT LOADING FOR THERAPEUTIC AGENT DELIVERY OF STENT" RESEARCH DISCLOSURE, KENNETH MASO PUBLICATIONS, HAMPSHIRE, GB, no. June 2000 (2000-06), page 975, XF ISSN: 0374-4353 *entire document*	R COATED DN 434,	1,2,4,5						
X	NOVICK, SCOTT J. ET AL: "Protein-containing hydrophobic of and films" BIOMATERIALS (2001), VOLUME DATE 23(2), 441-448, XP002252591 *abstract*	1,2,4,5							
X Funti	her documents are listed in the continuation of box C.	X Patent family members are listed	in annex.						
	tegories of cited documents:	*T* later document published after the inte	rnational filing date						
"A" document defining the general state of the lart which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means		or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combined with one or more other such documents, such combination being obvious to a person skilled in the art. *S* document member of the same patent family							
Date of the actual completion of the international search		Date of mailing of the international second 2 3. 01. 2004	arch report						
	September 2003								
Name and r	mailing address of the ISA European Patent Office, P.B. 5818 Patentiaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,	Schnack, A							

Internation Application No PCT/US 03/15544

C.(Continue	tion) DOCUMENTS CONSIDERED TO BE RELEVANT				
Category •	Citation of document, with indication,where appropriate, of the relevant passages		Relevant to claim No.		
x	WO 00/29043 A (HABERBOSCH WERNER; JUSTUS LIEBIG UNI GIESSEN (DE); CHRISTOPHE BURE) 25 May 2000 (2000-05-25) claims 1-26 examples 1-4	<u>.</u> 40 .7 0	1-5		
	US 2001/014717 A1 (HOSSAINY SYED F A ET AL) 16 August 2001 (2001-08-16) '0031!-'0042!, '0080! claims 1-36		1,2,4,5		
Ċ	WO 99/55396 A (SURMODICS INC) 4 November 1999 (1999-11-04) page 4, line 1 - page 8, line 30 example 1		1-9		
′	WO 02/24249 A (BINDERMAN ITZHAK ;KOOLE LEVINAS H (NL)) 28 March 2002 (2002-03-28) page 4, line 5 - line 30 page 6, line 26 - page 8, line 11 page 12, line 1 - line 27 page 16, line 5 - page 17, line 8		1,2,4,5 3		
	US 6 110 483 A (ZHANG XIANPING ET AL) 29 August 2000 (2000-08-29) column 3, line 65 - column 6, line 16 claims 1-40	1-8			
P,X	WO 03/022324 A (ABBOTT LAB) 20 March 2003 (2003-03-20) page 16, line 19 - page 17, line 22	1,2,4,5			
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eri Conal application No. PCT/US 03/15544

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)
This international Search Report has not been established in respect of certain claims under Article_17(2)(a) for the following reasons:
Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:
Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful international Search can be carried out, specifically:
3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).
Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)
This International Searching Authority found multiple inventions in this international application, as follows:
see additional sheet
As all required additional search fees were timely paid by the applicant, this international Search Report covers all searchable claims.
As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. Y No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-9
Remark on Protest The additional search fees were accompanied by the applicant's protest. No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-9

A coating for an implantable medical device, comprising a thermoplastic polyacrylate material free from acetate species and a herapeutically active agent incorporated therein.

2. claims: 10-27

A coating for an implantable medical device, the coating comprising a first layer having an active agent incorporated therein and a second layer disposed over the first layer, wherein the second layer comprise a thermoplastic polyacrylate material for modifying the rate of release of the agent.

information on patent ramity members

Application No PCT/US 03/15544

						03/15544
Patent document cited in search report		Publication date		Patent family member(s)		Publication date
WO 0029043	A	25-05-2000	FR	2785812	A1	19-05-2000
			AU	1168100		05-06-2000
			CA	2349930		25-05-2000
			EP			
				1131113		12-09-2001
			WO	0029043		25-05-2000
			JP	2002529203		10-09-2002
			US	6517858	B1	11-02-2003
US 2001014717	A1	16-08-2001	US	2002193475	Δ1	19-12-2002
		10 00 2001	EP	1347792		01-10-2003
			MO	02058753		
						01-08-2002
			AU	2449601		03-07-2001
			CA	2395199		28-06-2001
			EP	1242130		25-09-2002
			JP	2003517890		03-06-2003
			WO	0145763	A1	28-06-2001
			US	2001018469	A1	30-08-2001
			AU	4197401		15-10-2001
**			WO	0174415		11-10-2001
						11 10 2001
WO 9955396	Α	04-11-1999	AT	219693		15-07-2002
			ΑU	760408	B2	15-05-2003
			ΑU	3563899	Α	16-11-1999
			CA	2320259	A1	04-11-1999
		•	DE	69901927		01-08-2002
			DE	69901927		10-10-2002
			DK	1019111		14-10-2002
			EP	1174157		
						23-01-2002
			EP	1019111		19-07-2000
			ES	2179646		16-01-2003
			JP	3406903		19-05-2003
			JP	2002512856		08-05-2002
			PT	1019111	T	31-10-2002
			WO -	9955396	A1	04-11-1999
			US	2003031780	A1	13-02-2003
			US	6214901		10-04-2001
			US	6344035		05-02-2002
			ÜS	2002032434		14-03-2002
	^	20. 02. 2000		0005000		
WO 0224249	Α	28-03-2002	AU	2095002		02-04-2002
			WO	0224249		28-03-2002
			US	2002065551	A1	30-05-2002
US 6110483	A	29-08-2000	AU	8159898	 A	04-01-1999
			CN	1261288		26-07-2000
			EP	1003571		
						31-05-2000
			JP	2002506369		26-02-2002
			WO	9858690	42	30-12-1998
WO 03022324	Α	20-03-2003	US	2002123505	41	05-09-2002
			WO	03022807		20-03-2003
			WO	03022324 /		20-03-2003
			US	2003129215		10-07-2003